



# UNITED STATES PATENT AND TRADEMARK OFFICE

A

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,651	02/14/2002	Jeremy Alan Arnold	ROC920010318US1	9372
46296	7590	12/23/2005	EXAMINER	
MARTIN & ASSOCIATES, LLC			WU, YICUN	
P.O. BOX 548			ART UNIT	
CARTHAGE, MO 64836-0548			PAPER NUMBER	

2165

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/075,651	ARNOLD ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Yicun Wu	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10, 11 and 40-45 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 12, 14-39 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

*Apr 11 2006*  
*Apr 11 2006*  
*Primary Examiner*  
*Technology Center*

Art Unit: 2165

### III. DETAILED ACTION

1. Claims 1-12 and 14-45 are presented for examination.

#### Response to Applicant' Remarks

2. Applicant argues:

(1) "These prior art patents are not concerned with databases."

(2) "There is no teaching or suggestion in Probert that the monitor of access requests performs the function of a database optimizer."

(3) A docfile allocation structure is not part of a database and is not a database schema".

(4) "statistics are not used to optimize the performance of accessing data in the database in Probert not Khoyi.

(5) does not teach or suggest anything about storing the same data in a database or in a database column.

Examiner disagree.

With respect to the 1<sup>st</sup> argument, the Examiner consider "When applications open files, or database records, or other persistent information containers." Probert, Jr. et al. Col. 10, lines 5-7) do concern with databases.

Art Unit: 2165

With respect to the 2<sup>nd</sup> argument, the Examiner consider

"a filter driver may keep a file in different formats depending on its access history, optimizing for the most common access, or using a private internal format that isn't exposed to applications." Probert, Jr. et al. Col. 10, lines 5-7) performs the function of a database optimizer.

With respect to the 3<sup>rd</sup> argument, the Examiner consider "persistent application data is stored in different formats", Probert, Jr. et al. Col. 1, lines 35-37), so a docfile allocation structure is part of a database and is a database schema.

With respect to the 4<sup>th</sup> argument, the Examiner consider

"The filter driver may change the format that information is stored in based on access history" Probert abstract and "statistics". Probert Fig. 5 and "a filter driver may keep a file in different formats depending on its access history, optimizing for the most common access, or using a private internal format that isn't exposed to applications." Probert, Jr. et al. Col. 10, lines 5-7) shows that statistics are used to optimize the performance of accessing data in the database in Probert.

Art Unit: 2165

With respect to the 5<sup>th</sup> argument, the Examiner consider

"The stored form of the information may be converted to an intermediate format" and "The filter driver may also keep a file in different formats" (Probert, Jr. et al. Col. 4, lines 5-17) clearly teach storing the same data in a database or in a database column. Clearly, there is more than one format of the same data.

Art Unit: 2165

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 12, 14-28 are rejected under 35 U.S.C. 101 because the claims are directed to a non-statutory subject matter, because they merely recite a number of computing steps without producing any tangible result and/or being limited to a practical application within the technological arts. The use of a computer has not been indicated. These claims do not indicate use of hardware on which the software runs to perform the steps recited in the body of the claim. Software or program can be stored on a medium and/or executed by a computer. In other words the software must be computer-readable. The use of a computer is not evident in the claim. MPEP 2106.IV.B.1(a) refers to "computer-readable" medium with computer program encoded on it."

Art Unit: 2165

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 6-9, 12, 14-16, 18-19 and 29-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Probert, Jr. et al. (U.S. Patent No. 6,745,176) in view of Khoyi et al. (U.S. Patent No. 5,226,161).

As to claims 1 and 12, Probert, Jr. et al. discloses an apparatus comprising:

at least one processor (fig. 1);

a memory coupled to the at least one processor (fig. 1); and

a database optimizer residing in the memory and executed by the at least one processor (i.e. monitor access requests. Fig. 5),

Art Unit: 2165

the database optimizer using statistics (i.e. statistics. Fig. 5) regarding the type of applications accessing data in a database (i.e. format. Fig. 5), the frequency with which the applications access the data (i.e. statistics. Fig. 5), and data being accessed by the applications to make at least one change to the database schema (i.e. generate docfile allocation structures. Fig. 4) to optimize the performance of accessing data in the database (fig. 4).

Probert, Jr. et al. does not explicitly teach the location of the data.

Khoyi et al. teaches the location of the data (col. 11, lines 20-25 and col. 3, lines 10-40).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Probert, Jr. et al. with the location of the data.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Probert, Jr. et al. by the teaching of Khoyi et al. because providing the location of the data allows addition of new applications and data types if they do not



Art Unit: 2165

fit within the applications and data types initially envisioned and defined as taught by Khoyi et al. (col. 2, lines 10-17).

As to claims 2 and 14, Probert, Jr. et al. as modified teaches an apparatus wherein

the database optimizer makes the change to the database schema according to a set of rules that specify a preferred data type for each type of application accessing data in the database (i.e. docfile and NSS format. Probert, Jr. et al. Fig. 4).

As to claims 3 and 15, Probert, Jr. et al. as modified teaches an apparatus wherein the change to the database schema comprises

changing the data type of at least one column in the database (i.e. docfile and NSS format. Probert, Jr. et al. Fig. 4).

As to claims 4 and 16, Probert, Jr. et al. as modified teaches an apparatus wherein the change to the database schema comprises

Art Unit: 2165

adding a new column of a second data type to the database that contains the same data in an existing column of a first data type in the database (i.e. docfile and NSS format. Probert, Jr. et al. Fig. 4).

As to claim 6, Probert, Jr. et al. as modified teaches an apparatus wherein

the database optimizer receives requests from at least one application to access data in the database (Probert, Jr. et al. Col. 3, lines 15-25), and

returns data from the database of a data type that is expected by the requesting application (i.e. format a program expects. Probert, Jr. et al. Col. 3, lines 15-25).

As to claim 7 and 19, Probert, Jr. et al. as modified teaches an apparatus wherein the database optimizer further comprises

a run time statistics gathering mechanism to gather the statistics (i.e. statistics. Fig. 5).

As to claims 8 and 18, Probert, Jr. et al. as modified teaches an apparatus wherein the database optimizer operates according to customization settings set by a human

Art Unit: 2165

user (Probert, Jr. et al. Fig. 1, 5 and col. 6, lines 30-35).

As to claim 9, Probert, Jr. et al. as modified teaches an apparatus wherein the database optimizer further comprises

a data type conversion mechanism that converts data in a first data type retrieved from the database to a second data type that is preferred by an application requesting the data (i.e. docfile and NSS format. Probert, Jr. et al. Fig. 4).

6. As to claims 29-39, the limitations of these claims have been noted in the rejection above. They are therefore rejected as set forth above.

Art Unit: 2165

**Allowable subject Matter**

7. Claims 10-11 and 40-45 are allowed over the prior art made of record.

8. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Conclusion**

9. **THIS ACTION IS MADE FINAL**, Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory- period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136 (a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply-expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2165

**Points of contact**

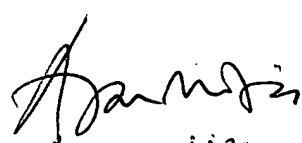
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yicun Wu whose telephone number is 571-272-4087. The examiner can normally be reached on 8:00 am to 4:30 pm, Monday -Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Yicun Wu  
Patent Examiner  
Technology Center 2100

December 20, 2005

  
A. M. Gaffin  
Primary Examiner  
Technology Center 2100